

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 5-11 in accordance with the following:

1. (currently amended) Apparatus for use in a NMR system, the apparatus comprising:
 - a magnetic field generator surrounding a bore, ~~for and~~ generating a magnetic field in a working volume located in the bore;
 - a sample support ~~which can be removably insertable inserted~~ into a first end of the bore so as to locate a sample in the working region;
 - a probe carrying RF generating and receiving coils and ~~which can be removably insertable inserted~~ into the other, second end of the bore so as to locate the RF coils adjacent the working volume;
 - and
 - a set of shim coils located in the bore about the working volume and which cooperate with the magnetic field generator to create a magnetic field in the working volume of sufficient uniformity to perform a NMR experiment on a sample, ~~characterized in that~~
 - the RF receiving and generating coils are being located in a reduced diameter section of the probe at its leading end; ~~and in that~~
 - at least some of the shim coils are being located on a support surrounding the reduced diameter section of the probe.
2. (original) Apparatus according to claim 1, wherein the shim coil support is coupled, preferably integrally formed, with the sample support.
3. (original) Apparatus according to claim 1 or claim 2, wherein the reduced diameter section of the probe includes other shim coils.
4. (original) Apparatus according to claim 3, wherein the reduced diameter section of the probe includes axial field shim coils.

5. (currently amended) Apparatus according to claim 13, wherein the reduced diameter section of the probe includes radial field shim coils.
6. (currently amended) Apparatus according to claim 1, 2, or 5 ~~any of the preceding claims~~, wherein the reduced diameter section of the probe terminates at a wider diameter section, the wider diameter section substantially filling the bore cross-section.
7. (currently amended) Apparatus according to claim 16, wherein all the shim coils are located axially spaced from the wider diameter section of the probe.
8. (currently amended) Apparatus according to claim 1 ~~any of the preceding claims~~, wherein the reduced diameter section of the probe supports one or more gradient coils.
9. (currently amended) Apparatus according to claim 1 ~~any of the preceding claims~~, wherein the sample support comprises a tube.
10. (currently amended) Apparatus according to claim 1 ~~any of the preceding claims~~, wherein the sample support includes a mechanism for rotating the sample within the working volume.
11. (currently amended) Apparatus according to claim 1 ~~any of the preceding claims~~, wherein the magnetic field generator comprises a superconducting coil.